

Name: _____

Date: _____



ALGEBRA QUIZ #1 – Study Guide

(Total Points Possible = 32)

PART 1: Complete each *review* problem below. SHOW YOUR WORK. (3 pts. each)

1. Simplify by combining like terms.

$$(3x^2 - 4x + 5) + (2x^2 - 6x - 11)$$

2. Simplify by following the order of operations.

$$15(2 - 1) \div 3 + 4$$

3. Simplify by following the order of operations.

$$3^2 + 5(1 - 4) + 2 \cdot 5 + 1$$

4. Solve for x .

$$2x + 11 - 8 = 6x - 5$$

5. Solve for x .

$$5x + 3 + 2x = 7x + 4 - 6$$

6. Study the tile pattern below.



Figure 0



Figure 1

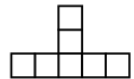


Figure 2

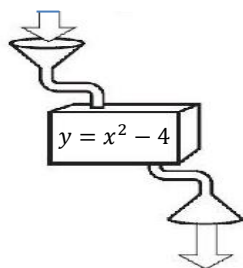
A. Draw Figure 3.

B. Explain how the pattern grows.

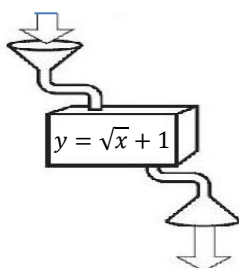
PART 2: Complete each problem below. SHOW YOUR WORK.

7.

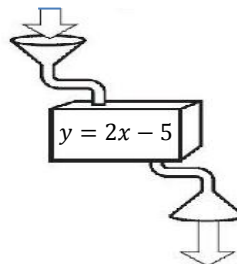
- A.** If an input of 1 is put into this function machine, what is the output? (2 pts.)



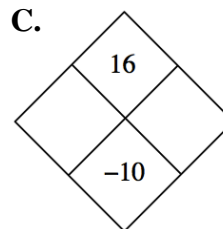
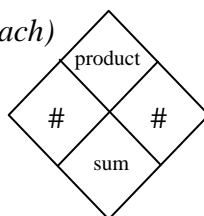
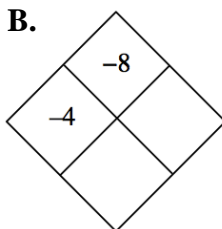
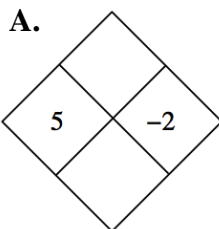
- B.** If an input of 64 is put into this function machine, what is the output? (2 pts.)



- C.** If you want to get an output of 5, what number must you input into this function machine? (1 pt.)



8. Complete each of these Diamond Problems. (2 pts. each)



9. One day, you are late to class, so you miss the beginning of the warm-up problem. Your teacher ends the problem by saying “Take the absolute value of your number. Your answer shouldn’t be zero. If your answer is positive, raise your right hand. If your answer is negative, raise your left hand.”

- A.** Even though you missed all the numbers and operations in the problem, what hand should you raise to get the correct answer? (1 pt.)
- B.** Completely explain why you should raise that hand. (2 pts.)